

**REMARKS**

The following comments will address the two claim rejections under 35 USC §103, using the same headings as used in the outstanding Office Action.

**Summary of Arguments**

Applicant in all claims specifies a release agent as an element of the invention. This is the "acrylic solvent cohesive layer parting agent." Neither Japanese reference '918 nor '392 recognizes any problem with the release layers disclosed. JP '918 cannot have a problem with a release layer and a fiber layer because it has no fiber layer. JP '996 has a release (between (6) and (7)), but it does not interface with a photocopier process of placement of color or the fiber. Still further, the '996 release is on the opposite side of the fiber layer (that is, it is applied after the colorant (6) after (15)) so it cannot interface with the non-copy machine coloring process. The '396 patent (rejection paragraph 5) is for screen painting and not photocopy transfer of colorant. There is no suggestion in '396 that a release interfaces with colorant in a fiber layer.

Williams, on the other hand, teaches a release for a tape and does not recognize that his release would be useful in combining a hair-like layer and color copy process to achieve a clear product. There is no suggestion in any single reference or if the references were combined to incorporate the Williams release into applicant's claimed invention.

**First Claim Rejection (Paragraph 3) Under 35 USC § 103**

The outstanding Office Action states that "Claims 1 and 6 are rejected under 35 USC 103 (a) as being unpatentable over JP 2840918 to Yugen et al. (English translation) in view of JP 05-177996 to Kazuo (computer translation) and further in view of USPN to Williams et al." This rejection is respectfully traversed.

Attached is a copy of each of Applicant's claims with reference numbers to Applicant's drawings for the Examiner's reference.

This is a two-step rejection. First the Examiner asserts it is obvious to insert a fiber (hair) from '996 into '918 creating a new product. Then the Examiner takes a second step and argues that the new product of step one can be modified by adopting a release from '815. There is no teaching of the existence of the problems raised by step one and no showing or suggestion that the solution of step two is present in Williams which is from a non-analogous

role of tape art. Williams does not teach anything about interaction between his release and fibers.

The Williams '815 patent has been relied upon, but is not of record in a form PTO -892 or in the PTO form 1449 submission.

It is respectfully submitted that this rejection fails to take into account important claimed features of the present invention and their significant differences compared to cited prior art. Accordingly, prior to specifically addressing the specifics of the rejection, Applicants believe that it would be helpful to briefly summarize the background of this invention as set forth in the specification, as follows:

(1) Electrophoto Copying.

The present invention is directed to applying images by electrophoto copying, a commercially important process which provides for electrophotographically reproducing an original by the action of light to a photoconductive member whose electrical conductivity, electrical charge and/or electrical emissivity is selectively altered by the action of the light to produce an electrostatic latent image which persists after imaging. This technology is significantly different from and requires significantly different materials than other image application techniques, such as screen printing (which pertains to some of the

cited reference, discussed hereinafter). As is well know in the art, screen printing is a printing process by which a printing medium (generally ink) is applied to a surface by forcing it through a fine mesh screen to which a refined stencil has been applied, with the stencil opening determining the form and dimensions of the resultant image.

Each of the present invention's claims specify that "a toner image fixed to the fiber layer ... by an electrophoto copying machine using a toner" as essential elements of the claimed invention.

(2) Electrophoto Copying and Specified Elements

The present invention is directed to providing a fixed toner image over a fiber layer which is effectively and smoothly transferred onto a cloth, etc. (See page 1, lines 13-14 of the Specification) or receiver (10). After describing prior approaches, including teaching of some the references cited by the Examiner and discussed hereinafter), Applicant pointed out specific problems with prior electrophoto copying processes. As stated at page 3, lines 13-14 of the Specification, the Applicant prepared hair-like transplanted sheets using an electrophoto copying machine in the same manner as in Japanese Patent No. 28400918 and Provisional Japanese Patent application 2000-289392 (each of which are cited by the Examiner and discussed hereinafter), the Applicant concluded:

The toner (sic) images obtained thereby on the marketed short fiber layers were not clear and a part of transferred image on the short fiber may remain on a base sheet.

The Applicant observed that the problem was that the toner could not effectively penetrate the layers of then-known transfer sheets due to inferior conductivity which caused the toner to not reach deeply into the fiber layer (page 2, line 5).

After further work, the Applicant discovered that an acrylic solvent cohesive layer improved the conductivity, and part of the problem was solved: namely, that "the toner image was efficiently fixed and the clear image was formed" (See page 4, lines 1-14 of the Specification).

The second part of the problem (adhering portions of the short fiber layer on the base sheet) required further inventive effort. Through further work, the Applicant discovered that this problem is also solved by using an acrylic ester resin layer is used. As Applicant stated at page 4, lines 22-29 of the Specification:

. . .when an acrylic ester resin layer is adopted in stead (sic) of an acrylic urethane resin layer, the acrylic ester resin layer in the heating and pressing method intertwines with the short fiber layer as a binder while the acrylic ester resin layer overcomes the adhesive force of the acrylic solvent cohesive layer. . .

Each of the present invention's claims specify both the "acrylic solvent cohesive layer" and "acrylic ester resin binder layer", as essential elements of the claimed invention.

Turning specifically to the 35 USC 103 (a) rejection, the following comments will address each of the cited references:

As to the Yugen reference, the Examiner states that Yugen "does not include (1) hair-transplanted fibers or (2) the acrylic ester binder or (3) solvent". To the extent that the Examiner uses the term "solvent" to mean the claimed "acrylic solvent cohesive layer", Applicant agrees with this statement. Yugen discloses only urethane.

Each of these three omissions are significant claimed elements and as explained below, these deficiencies are not corrected by picking with hindsight, teachings or listings of these materials in significantly different combinations of materials which are used for different processes.

Yugen's teaching is directed to achieving a multi-color images by electrophoto copying without the prior art color separations or

progressive form processes used in non-electrophoto copying image application processes, by incorporating colored acrylic urethane resin layers in addition to the transparent acrylic urethane layer.

As to the Kazuo reference, the Examiner argues that Kazuo teaches using hair-transplanted fibers, that hot printing is the functional equivalent of electrophotography and that it would have obvious to include such fibers to provide a three-dimension image.

Kazuo's hair-transplanted fibers are employed in this teaching to support a decorative detailed material (applied by a screening process) to create a three-dimensional pattern by a hot pressing technique. The image which results from this process, is different from the electrophoto process of the present invention or Yugen's. The "hot printing" of decorative material of a fiber layer is not the functional equivalent of electrophotography" either technically or commercially. As noted above, in electrophoto processes, the action of light on a photoconductive member produces the image. In Kazuo the image results from the hot-pressing of the decorative detailed material into the fiber layer. Further, as noted in Applicant's Specification at page 2, lines 7-11, there are significant practical /commercial differences, as follows:

..electrophoto copying machine which is simple, when compared with a screen printing, an offset printing, a gravure printing and other similar printing methods, which need complicated process plates or special printing techniques, this transfer sheet does not need such special plates or special printing techniques, and thus production costs come very inexpensive.

Thus, electrophotographing is not a functional equivalent of hot printing (particularly as taught in Kazuo) and it would not be obvious to incorporate Kazuo's significantly different approach into Yugen. Indeed one would expect that such incorporation of Kazuo's teaching into Yugen, without the benefit of the teaching of the present invention, would negate or at least significantly impair Yugen's electrophoto design.

The Examiner cites Williams without explaining where there is any teaching in the Yugen or Kazuo references that one should modify anything, much less that one should look to the art of tape rolls to find a parting agent. Only Applicant recognized that there must be an acrylic solvent parting agent as claimed.

As to the Williams reference, the Examiner states that aqueous coating layers of aqueous acrylic adhesives are shown at col. 3 lines, 10-15 and latex monomers of acrylic ester, which provide binding functionality, are shown at col. 3, lines 35-45. The Examiner further states that it would be *prima facie* obvious to include an acrylic ester and solvent because Williams provides the use of such compounds for releasing agents and "as binders, wetting agents, foaming, and such at col. 3, lines 10-45 and col. 4 lines 50-60." Applicant respectfully submits that the Examiner's "picking and choosing" of isolated teaching from an extremely broad shopping list of compounds is improperly based upon use of Applicant's teaching with hindsight and also ignores the important



factual distinctions between Williams teaching and applications, compared to those of the present invention, as follows:

Williams' teaching is directed to aqueous released coating composition for pressure sensitive adhesives used in applications such as rolls of tape. This is a completely non-analogous art and there is no suggestion to consider it. This technology is based upon the differential affinity of the adhesive towards the two sides of the backing (Col. 1, lines 48-50). The release coating should have sufficient affinity for the pressure sensitive adhesive to form an appropriate roll tape, but insufficient affinity for the pressure sensitive adhesive backing or the tape as to remain or leave portions of it adhered to the pressure sensitive adhesive/tape when it when "unrolled".

Indeed although an extremely broad listing of "suitable" material may be listed, this basic "differential affinity" must be achieved by appropriate selection of "pairs" and indeed, from Williams' claims, its invention appears to be limited to selected pairs having specified carboxylic acid functionality coupled with organic compounds having at least one fatty acid ester and at least one quaternary amine.

Thus, although one might find a compound similar to Applicant's acrylic ester, in the extremely long "open ended" and arguably infinite listing (based upon Williams' use of the term "and the like" listing of potential release agents at Col. 3 and 4),

there is no reasonable or appropriate basis to select it, rather than the literally thousands indeed infinite number of compounds. Williams teaching for its application included this because of the presumed ability for one skilled in the art to make an appropriate selection for use with a given pressure sensitive adhesive to provide the necessary differential affinity. However, this broad listing does not provide any reasonable teaching or suggestion to one focusing on Yugen's teaching, any more than a handbook of chemical compounds. Even though Applicant's acrylic resins may be within this extremely broad listing, there are also numerous materials (e.g., urethane resins), which as discussed above, would not. The only basis to select acrylic solvents and/or resins from Williams's extremely broad listings, is with hindsight based upon Applicant's teachings.

Furthermore, even assuming arguendo, that Williams listing includes both Applicant's acrylic solvent cohesive layer and "acrylic ester resin binder layer", there would be no teaching or suggestion that they be used together, particularly with the toner image interposed. None of the references suggest that one working in the art refer to the non-analogous tape release art of Williams for the solution to the problem in the transfer art.

The further teaching at Col. 4, lines 51-57 is irrelevant in that it does not address what the release coating can or should be, but rather simply what additional components may be included. This

paragraph shows the release stage with the tape after application. Applicant's release layer (3) is discarded. But significantly, none of these teachings have any logical relevance (other than with hindsight) to Applicant's teaching of use of an acrylic solvent cohesive layer parting agent specifically paired with together with an acrylic ester resin binder between which is a toner image, which due to the improved electrical conductivity properties, can significant improve the clarity of electrophoto copying, since even if the acrylic compounds are generically included, none of the other properties or application considerations are taught or suggested.

Accordingly, Applicant respectfully submits that each of the 35 USC 103(a) rejections set forth in the outstanding Office Action are improperly based and/or has been effectively rebutted, and each should be withdraw.

#### **Second Claim Rejection (Paragraph 5) Under 35 USC § 103**

The outstanding Office Action states that "Claims 1 and 6 are rejected under 35 USC 103 (a) as being unpatentable over JP 2840918 to Yugen et al. (English translation) in view of JP 03-106396 and further in view of USPN to Williams et al." This rejection is respectfully traversed.

Applicant respectfully submits that it cannot fully respond to this rejection since the Examiner discusses alleged teachings of

Kazuo as part of the basis for this rejection, yet Kazuo is not cited as reference in this in this rejection. Further, the Examiner notes that "JP will be translated in full and disclosed in the next Office Action. (Emphasis Added). Reliance upon such a translation in a subsequent Office Action will require that the subsequent Office Action be Non-Final.

The Applicant's has concerns (based upon the Examiner's reiterating selected portions of Applicant's discussion of JP 2840918 in Applicant's specification and the fact that a full translation is being ordered), that Examiner has not formulated a basis for this rejection. For Applicant to respond, would require Applicant to "guess" what relevance the Examiner may ultimately place on this undisclosed "full translation".

Further it is particularly troubling that the Examiner has stated that the full teaching of this reference will be "disclosed in the next Office Action". This is an admission that there is no *prima facie* case.

The foregoing comments made with regard to the First Rejection (paragraph 3) (particularly the discussion of the present invention and the alleged teachings of Yugen, Kazuo and Williams) are equally relevant herein and are incorporated by reference. Additionally, Applicant offers the following supplementation:

As to JP 03-1006396 (hereinafter "'396"), the Examiner, in the Office Action, has apparently sought to extract selected portions of

what Applicant's has said of this reference at Page 3 of his specification. Applicant respectfully submits that the Examiner misinterpreted the teaching for a number of reasons as follows:

As to the alleged teachings and relevance of the '396 reference, the Examiner states that '396 provides "a thermal transfer comprising hair-like fibers are used in transfer mediums in order to fix a design layer", and states that " this is disclosed by Applicant at page 3, lines 2-7". The Examiner further states that "It would have been obvious to one of ordinary skill in the to modify the sheet of Yugen to include the hair-transplanted fiber of '396 in order to fix a design to a hair-like transfer". However, what is in fact described by Applicant at the cited portions of page 3, and the immediately following paragraphs, is a significantly different structure which is designed for use for in a significantly different application, which would not be an "obvious modification", as follows:

- (1) The "hair-like fibers" in '396 are not a fiber layer provisionally bonded to an acrylic solvent cohesive layer, with toner image fixed thereon (as in the present invention), but instead are part of a compound multi-layer comprising (1) a provisional layer of short fibers, (2) a second short fiber layer prepared by implanting hair-like material over the provisional layer, (3) a covering layer on a material layer formed on the covering layer. (See

Applicant's specification, Page 3, lines 1-4). These differences are structurally and functionally significant in that in '396, the provisional layer is designed to be peeled off against the short fiber of the short fiber layer and the adhesive on the base sheet (See Applicant's specification Page 3, lines 8-12), whereas in the present invention, the structure is designed to keep the fiber layer intact and to prevent the depositing fiber on the base sheet, and

- (2) The structure disclosed in '396 is designed for and only suitable for screen-printing, not electrophoto copying. (See Applicant's specification Page 3, lines 13-19). As described above, (1) screen-printing and electrophoto copying are significantly different technologies which require significantly different materials upon which an image can be effectively imposed.

Applicant respectively traverses the Examiner's statement on the teachings of '396 and obviousness of modifying Yugen to incorporate the '396. A *prima facie* case of obviousness has not been made out.

As to the alleged teachings and relevance of the Williams, the Examiner cites the same sections and alleges the same significance to this reference as stated in the previous rejection above. Applicant submits that the foregoing comments (hereby incorporated

by reference) are equally relevant to this rejection and dispositive thereof.

In view of the above comments, it is respectfully submitted that the this (paragraph 5) 35 USC 103(a) rejection is also improper and/or has been effectively rebutted, and should be withdrawn.

#### **SUMMARY**

Accordingly respectfully submits that each of the 35 USC 103(a) rejections set forth in the outstanding Office Action are improperly based and/or has been effectively rebutted, and each should be withdraw.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current condition, it

is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems by Interview or Examiner's Amendment.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ronald R. Snider', is written over a horizontal line.

Ronald R. Snider

Reg. No. 24,962

Date: February 26, 2004

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